

REMARKS/ARGUMENTS

Claims 1, 3, 4, 6, 8, and 9 are pending after entry of the above amendments, in which Claim 1 has been amended to include the limitations of Claims 2, 5, and 7, which accordingly have been canceled.

In the Office Action of November 18, 2008, Claims 5-9 were objected to as being in improper multiple-dependent form, and thus were not treated on the merits. Claims 1-4 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,726,744 to Arnold in view of U.S. Patent No. 3,707,750 to Klass.

Response to Objections to Claims 5-9

Applicant has amended Claim 8 so that it is no longer a multiple-dependent claim. The dependencies of Claims 3 and 6 have also been amended in view of the cancellation of Claims 2 and 5, and all pending claims have been amended in various minor formal respects. The present amendments overcome the objections to Claims 5-9.

Response to Rejections Under 35 U.S.C. 103(a)

As noted, Claim 1 has been amended to incorporate the limitations of original Claims 2, 5, and 7, as well as to specify that the claimed variable nozzle device is adapted to be mounted in an exhaust gas turbine of a turbocharger. As amended, Claim 1 is drawn to such a variable nozzle device that comprises:

an annular nozzle passage formed by a gap between two opposing wall members; and

at least one vane extending in said nozzle passage and being rotatably supported by a shaft attached to said vane, wherein said vane includes a sheet metal contour formed by wrapping a strip of sheet metal so as to form said contour as a loop about a portion of said shaft, said sheet metal contour being affixed to an outer peripheral portion of said shaft, wherein a further portion of

said shaft protrudes beyond an edge of said sheet metal contour by a predetermined amount so as to form a stepped portion contactable with one of said opposing wall members, thereby separating said sheet metal contour from said one of said opposing wall members.

It is respectfully submitted that the cited references do not teach or suggest the variable nozzle device according to amended Claim 1. U.S. Patent No. 4,726,744 to Arnold contains disclosure of a variable nozzle device comprising a vane made preferably by investment casting, or alternatively by other conventional procedures such as powder metallurgy and the like (col. 3, lines 61-65). As the Office Action acknowledged, Arnold fails to disclose a vane having a sheet metal contour.

U.S. Patent No. 3,707,750 to Klass is related to a method for manufacturing a cooled turbine blade, rather than a vane for a variable nozzle device. As such, the manufacturing method taught by Klass is designed with the objective of providing the cooling passages needed in a high-temperature turbine blade, but in an easier and less-costly way than in prior-art cast, forged and rolled blades, or hollow-cast blades (col. 1, lines 47-67, and col. 2, lines 1-24). Klass achieves the objective by forming the turbine blade from two sheet metal strips **2, 4**, one of which has pre-formed grooves or channels **6** to form the cooling passages. The other strip is brazed to the first strip, and the combined strips are then wrapped about a tool core **9** of airfoil shape and the ends **12, 13** of the strip **4** are joined together by brazing or welding, after which the tool core **9** is withdrawn.

This objective of Klass to provide cooling passages in the turbine blade, which is essentially the only reason why Klass uses his sheet-metal technique, does not apply to Arnold's variable nozzle device for an exhaust gas turbine of a turbocharger, in which the vanes are uncooled. Applicant submits that Klass's teachings about cooled turbine blades would not have been applied to Arnold's uncooled vane for a variable nozzle device, because the reason and objective of Klass for using his manufacturing method do not have any known or predictable

Appl. No.: 10/567,517
Amdt. Dated December 23, 2008
Reply to Office Action of November 18, 2008

applicability to the uncooled vanes taught by Arnold. Therefore, it is submitted that the combination of Arnold and Klass as asserted in the Office Action would not have been made.

For these reasons, it is submitted that the rejections are erroneous and should be withdrawn.

Furthermore, it is submitted that even if Klass and Arnold were to have been combined (which is disputed), the combination still fails to teach or suggest the variable nozzle device according to Claim 1. In particular, Claim 1 requires that the strip of sheet metal forming the sheet metal contour is wrapped in a loop about the shaft and is affixed to an outer peripheral portion of the shaft. Neither Arnold nor Klass teaches or suggests these aspects of Claim 1.

Therefore, it is submitted that Claim 1 is patentable over Arnold and Klass, as well as the other prior art of record. Claims 3, 4, 6, 8, and 9, which depend from and thus include the limitations of Claim 1, are therefore also patentable for at least the same reasons given above for Claim 1.

* * *

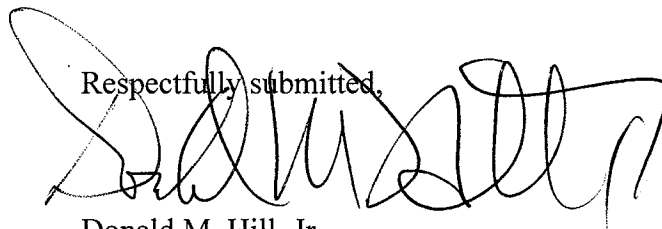
Appl. No.: 10/567,517
Amdt. Dated December 23, 2008
Reply to Office Action of November 18, 2008

Conclusion

Based on the above amendments and remarks, it is submitted that the pending claims are patentable and the application is in condition for allowance.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefor (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Donald M. Hill, Jr.', written over the text 'Respectfully submitted,'.

Donald M. Hill, Jr.
Registration No. 40,646

Send all correspondence regarding this application to:

Chris James
Honeywell Transportation Systems
3201 West Lomita Boulevard
Torrance, CA 90505

Tel (310) 791-7850
Fax (310) 791-7855

ELECTRONICALLY FILED USING THE EFS-WEB ELECTRONIC FILING SYSTEM OF THE UNITED STATES PATENT & TRADEMARK OFFICE ON DECEMBER 23, 2008.